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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,781	04/09/2004	Stefan Barkaro	5497-110	1454
57579 7590 12/16/2008 COATS & BENNETT/INFINEON TECHNOLOGIES 1400 CRESCENT GREEN SUITE 300 CARY, NC 27518				
EXAMINER				
JAMAL, ALEXANDER				
ART UNIT		PAPER NUMBER		
2614				
MAIL DATE		DELIVERY MODE		
12/16/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/821,781

Applicant(s)

BARKARO ET AL.

Examiner

ALEXANDER JAMAL

Art Unit

2614

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Based upon the submitted amendment, the examiner notes that claims 1,2,5-7,9,10 have been amended.
2. The examiner withdraws the previous set of rejections and prior art.
3. The examiner submits sever 112 rejections and requests clarification/correction from the applicant.
4. The examiner contends that the 112 issues prevents accurate examination as there appears to be inconsistencies, and also it is unclear exactly what the configuration of the 'impedances' are as the specification gives no real world or specific examples or sets of values or defined relationships between the load, the impedance values, and the gains of the claimed amplifiers.
5. The examiner contends that the previous set of rejections made in the 6-24-2008 rejection may still read on the claims, but examiner is unable to determine the exact circuitry/functional relationships being claimed (see 112 rejections below).

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the means for coupling the claimed 'transmit signal' along with the claimed input terminals receiving the signals from the

transconductance stages must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. **Claims 1-10** rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

As per **claims 1,3,7, (and all dependants)**, the claim recites a transmitter (line driver) that transmits a signal out to the line, but the disclosed drawings (Figs. 1 and 2) do not disclose the interface at the input of transmitter 1 (Fig. 2) or transmitter 3 (Fig. 2). Where does the signal to be transmitted come from? This is essential because the claimed device claims transconductance amplifiers which feedback into the transmitter stage. The interface between the input to the transmitter stage and the feedback paths from the transconductance amplifiers is not disclosed or enabled by the specification.

Claims 1,3,7, (and all dependants), further recites first impedances which are 'complex impedances to match the load impedance, and are of an impedance value that is much smaller than the impedance value of the load'. It is not clear what the exact relationship between the each individual impedance value and the load impedance is so that they 'match'. Furthermore, it is not clear how the complex impedances can 'match' the load impedance yet still be of an impedance value that is 'much smaller' than said load impedance. Applicant's specification makes the same statement. Since there are no concrete examples or values or specific implementations given, then examiner contends one skilled in the art would not understand the claimed relationships.

Claims 2,6,10, (and all dependants), recites a value k which is a function of the line driver and transconductance driver gains. Applicant's specification gives no real world values or implementation of gains and impedance combinations. The relationship between the transmitter gain, and the transconductance amplifier gains, as well as the **interface** in the feedback path from the transconductance stages to the input of the transmitter. Applicant has claimed a relationship that is **indeterminate** because the disclosed circuit is incomplete and no functional relationships between the gain stages are given.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claims 1-10** rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per **claims 1,3,7**, the claims cite first equal impedances that are an impedance value that is 'much smaller' than a load impedance. The examiner contends that since there are no specific values or examples or even specific protocol or load values disclosed, it is not clear what 'much smaller' would refer to.

As per **claims 4-5,8-9**, the examiner notes that the claims recite first-fourth resistors coupled to the transmitter/receiver stages. The independent claims recite that

two of the impedances are complex and applicant's arguments (remarks page 1-6) clearly state that a complex impedance requires more than a resistor. As such it is not clear how all of the claimed complex impedances would couple to the claimed resistances as they are not both shown separately in the disclosed drawings.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 571-272-7498. The examiner can normally be reached on M-F 9AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 571-272-7499. The fax phone numbers for the organization where this application or proceeding is assigned are **571-273-8300** for regular communications and **571-273-8300** for After Final communications.

/Alexander Jamal/

Primary Examiner, Art Unit 2614

Examiner Alexander Jamal

December 16, 2008